Safe and Easy

Seal Ring Installation

for Specialty Tool Manufacturers

NASA offers companies the opportunity to license this novel seal ring installation technology for connecting piping flange joints.

Developed at NASA Stennis Space Center, the Seal Ring Installation Tool (SRIT) provides a simple, safe, and clean method for installing and replacing seal rings in industrial piping. NASA Stennis's advanced SRIT offers significant improvements over current seal ring installation methods that can be inefficient and potentially dangerous. The improvements offered by this innovative technology can benefit numerous commercial piping-joint applications.

Benefits

- *Simple production*: Design is based on common pliers with added clamping arms.
- *Safer*: Hands and fingers are unharmed.
- *Cleaner*: Greases and adhesives are not needed.
- *No scratches*: Edges of the seal ring are clamped, eliminating scratches on the seal ring's face.
- *Reliable*: Clamp improves the accuracy of seal ring installation.

Commercial Applications

- Industrial water/sewer
- Chemical processing
- Petroleum refining
- Power plants
- Facility maintenance
- Cryogenic systems

National Aeronautics and Space Administration

The Technology

Seal rings, also known as seals, commonly are used in industrial piping to join securely two pieces of piping to minimize leakage. Seal rings are installed by placing the seal ring between two pipes and then uniting them. Conventional seal placement methods typically involve inserting the seal ring and holding it in place with grease, natural friction, tape, plastic wrap, screwdrivers, knife blades, or even fingers prior to and during union of the pipes. Many of these methods are unclean, unreliable, and unsafe for the person performing the installation. In addition, some procedures require that the face of the seal ring remain unscratched. This requirement can demand switching among different installation methods, which can be inefficient. Furthermore, improper seal ring placement, often resulting from these types of conventional installation methods, can lead to poor pipe unions that can be costly and unsafe.

NASA Stennis's SRIT provides a safe and effective method for installing seal rings. The SRIT is a type of clamping pliers with arm extensions. The arms are tipped with V-groove jaws that grip the seal ring on the edge and lock it in place. Once the seal ring is in position, the pipes are brought together, and the SRIT is withdrawn. Installation using this NASA Stennis technology provides a secure, precise, and uncontaminated seal, without harming the hands or fingers of the person performing the installation. In addition, use of the SRIT prevents scratches on the face of the seal ring, eliminating the need for switching among installation methods and consequently improving efficiency.

Commercial Opportunities

The Seal Ring Installation Tool is part of NASA's technology transfer program. The program seeks to stimulate commercial use of NASA-developed technologies. NASA has applied for patent protection for the SRIT, and prototypes have been tested. NASA invites companies with U.S. manufacturing capabilities to consider licensing this technology for use in commercial applications. NASA currently is offering opportunities for licensing.

Register your interest in this technology online at

http:// ***technology.ssc.nasa.gov***

For More Information

If you are interested in commercialization opportunities or in learning more about this technology, please contact

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